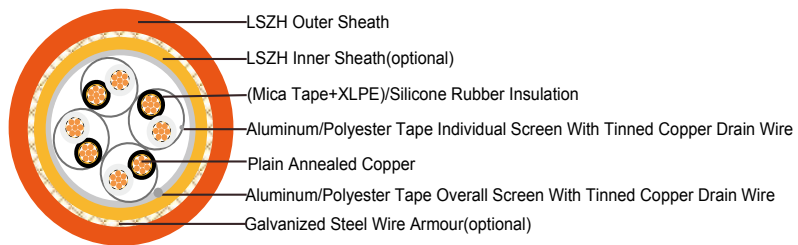


## 300/500V Mica+XLPE Insulated Individual And Overall Screened Instrumentation Cables

RE-2X(St)H PiMF...CI. FE 180 PH30 ( CU/MGT+XLPE/PSCR/OSCR/LSZH 300/500V Class 2 )  
 RE-2G(St)H PiMF...CI. FE 180 PH 30 ( CU/SR/PSCR/OSCR/LSZH 300/500V Class 2 )  
 RE-2X(St)H SWAH PiMF..CI. FE 180 PH 30 ( CU/MGT+XLPE/PSCR/OSCR/LSZH/SWA/LSZH 300/500V Class 2 )  
 RE-2G(St)H SWAH PiMF...CI. FE 180 PH 30 ( CU/SR/PSCR/OSCR/LSZH/SWA/LSZH 300/500V Class 2 )



### APPLICATION

The cables are designed, manufactured and tested as data transmission cables for emergency services. These are used for data and voice transmission when high frequency signal has to be assured also in the event of a fire.

### STANDARDS

Basic design to BS 5308/BS 7629-1

### FIRE PERFORMANCE

Circuit Integrity	IEC 60331-21; BS 6387 CWZ; DIN VDE 0472-814(FE180); BS 8434-1 (30mins); BS 5839-1 Clause 26 2d; CEI 20-36/2-1; SS229-1; NBN C 30-004 (cat. F3); NF C32-070-2.3(CR1)
Circuit Integrity with mechanical shock	EN 50200(PH30); CEI 20-36/4-0
Circuit Integrity with mechanical shock & water spray	EN 50200 annex E
System circuit integrity	DIN 4102-12, E30 depending on lay system
Flame Retardance (Single Vertical Wire Test)	EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*



Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)	EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4
Halogen Free	IEC 60754-1; EN 50267-2-1; DIN VDE 0482-267-2-1; CEI 20-37/2-1 ; BS 6425-1*
No Corrosive Gas Emission	IEC 60754-2; EN 50267-2-2; DIN VDE 0482-267-2-2; CEI 20-37/2-2 ; BS 6425-2*
Minimum Smoke Emission	IEC 61034-1&2; EN 61034 -1&2; DIN VDE 0482-1034-1&2; CEI 20-37/3-1&2; EN 50268-1&2*; BS 7622-1&2*
No Toxic gases	NES 02-713; NF C 20-454

Note: Asterisk \* denotes superseded standard.

### CABLE CONSTRUCTION

**Conductor:** Plain annealed copper wire, stranded according to IEC(EN) 60228 class 2.

**Insulation:** Mica glass tape covered by extruded cross-linked XLPE compound or fire resistant silicone rubber compound type EI2 as per BS 7655-1.1.

**Cabling Elements:** Insulated cores are twisted to form pairs with varying lay length to minimize crosstalk. Two-pair cable had four cores laid in quad formation.

**Cabling:** Pairs are cabled together. In cables with 8 pairs or more, 4 pairs are assembled to form a bunch, the bunches are then cabled together.

**Individual Screen:** Aluminum/polyester tape with 0.5mm<sup>2</sup> screen (7/0.3mm) tinned copper drain wire.

**Overall Screen:** Aluminum/polyester tape with 0.5mm<sup>2</sup> screen (7/0.3mm) tinned copper drain wire.

**Inner Sheath(optional):** Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1

**Armouring(optional):** Galvanized steel wire armour

**Outer Sheath:** Thermoplastic LSZH compound type LTS3 as per BS 7655-6.1( Thermosetting LSZH compound type SW2-SW4 as per BS 7655-2.6 can be offered.)

### VOLTAGE RATING

300/500 V

### COLOUR CODE

**Insulation Colour:** White with black numberings.

**Sheath Colour:** Orange (other colours on request).

### TYPE CODE

RE-	Instrumentation cable	H	Halogen free & zero halogen
2X	XLPE	2G	Silicon Rubber
(St)	Static shield of aluminium tape	SWA	Steel Wire Armoured
FE180	Insulation integrity (950°C 180 minutes)	CI	Circuit integrity
PH 90	Fire Test for 90 mins at 830°C		

## PHYSICAL AND THERMAL PROPERTIES

Temperature range during operation (fixed state): -30°C – +70°C

Temperature range during installation (mobile state): -20°C – +50°C

Minimum bending radius: 6 x Overall Diameter (unarmoured cables with silicone rubber insulation)  
 8 x Overall Diameter (unarmoured cables with XLPE insulation)  
 10 x Overall Diameter (armoured cables)

## ELECTRICAL PROPERTIES

Dielectric test:	2000 V r.m.s. x 5' (core/core)
Insulation Resistance	≥1000 MΩ x km (at 20°C);
Short circuit Temperature	XLPE: 250°C SR: 350°C

## CONSTRUCTION PARAMETERS

Conductor		RE-2X(St)H PiMF...CI. FE 180 PH30 RE-2G(St)H PiMF...CI. FE 180 PH30		RE-2X(St)H SWAH PiMF..CI. FE 180 PH30 RE-2G(St)H SWAH PiMF..CI. FE 180 PH30				
No. of Pairs X Cross Section	No./ Nominal Diameter of Strands	Nominal Insulation Thickness	Unarmoured		Armoured			
			Nominal Overall Diameter	Approx. Weight	Diameter Under Armour	Armour Wire Diameter	Nominal Overall Diameter	Approx. Weight
mm <sup>2</sup>	no./mm	mm	mm	kg/km	mm	mm	mm	kg/km
<b>2 Pairs</b>								
2X2x1.0	7/0.43	0.6	15.2	166	15.2	0.90	20.0	555
2X2x1.5	7/0.53	0.7	17.0	205	17.0	1.25	22.7	769
2X2x2.5	7/0.67	0.8	19.2	350	19.2	1.25	24.9	938
<b>5 Pairs</b>								
5X2x1.0	7/0.43	0.6	17.5	335	17.5	1.25	23.2	1000
5X2x1.5	7/0.53	0.7	21.5	433	21.5	1.60	28.1	1352
5X2x2.5	7/0.67	0.8	24.0	592	24.0	1.60	30.8	1665
<b>10 Pairs</b>								
10X2x1.0	7/0.43	0.6	22.5	626	22.5	1.60	29.3	1800
10X2x1.5	7/0.53	0.7	28.0	811	28.0	1.60	35.0	2165
10X2x2.5	7/0.67	0.8	31.5	1132	31.5	2.00	39.5	3007
<b>20 Pairs</b>								
20X2x1.0	7/0.43	0.6	30.5	1143	30.5	2.00	38.5	3019
20X2x1.5	7/0.53	0.7	38.0	1509	38.0	2.00	46.2	3684



# Caledonian

## Fire Resistant Instrumentation Cables

www.caledonian-tech.net    www.caledonian-tech.com



20X2x2.5	7/0.67	0.8	42.5	2112	42.5	2.50	51.9	5107
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Note : Other conductor sizes & pair configurations are available upon request.



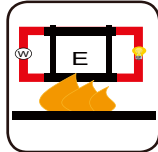
300/500V

Rated Voltage



BS 5308

Standard



Circuit Integrity  
IEC 60331/BS 6387  
EN 50200  
NF C32-070-2.3(CR1)



Reduced Fire Propagation  
NF C32-070-2.2(C1)  
IEC60332-3-24/EN50266-2-4



Flame Retardancy  
NF C32-070-2.1(C2)  
IEC60332-1-2/EN50265-2-1



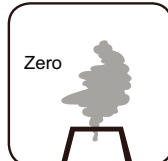
Low Toxicity  
NES 02-713/NF C 20-454



Low Corrosivity  
IEC60754-2  
EN50267-2-2/3  
NF C 32-074

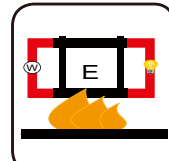


Low Smoke Emission  
IEC 61034-1&2  
EN 50268-1&2/NF C32-073



Zero

Halogen Free  
IEC60754-1  
EN50267-2-1



Functional Integrity  
DIN 4102-12